151788

ADDENDUM 001

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

Prepared For:

ENVIRONMENTAL CONSERVATION AND CHEMICAL CORPORATION TRUST

Prepared By:

AWD TECHNOLOGIES, INC.
INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

JUNE 3, 1993

1. Technical Specifications*:

   A. Revised Section: Sections 01300, 01392, 01410, 02083, and 02800 are deleted and replaced with revised sections of the same number. A copy of each revised section accompanies this addendum.

   B. New Sections: Section 02150 has been added and a copy of this section accompanies this addendum.

2. Design Drawings:

   A. The following drawings replace the earlier Revision 0 drawings, dated 05/26/93, of the same number:

      1. Drawing Number C-1, Revision 1, Dated 06/03/93
      2. Drawing Number C-2, Revision 1, Dated 06/03/93
      3. Drawing Number C-3, Revision 1, Dated 06/03/93
      4. Drawing Number C-4, Revision 1, Dated 06/03/93
      5. Drawing Number C-6, Revision 1, Dated 06/03/93
      6. Drawing Number C-8, Revision 1, Dated 06/03/93

      A copy of each revised drawing accompanies this addendum (under separate cover).

3. Health and Safety Plan:

   A. Revised Figures: Figure Number 6-1, Revision 0 is deleted and replaced with Figure Number 6-1, Revision 1. A copy of this revised figure accompanies this addendum.

4. Quality Assurance Project Plan*:

   A. Revised Pages: Pages 2-5 and 5-4 are deleted and replaced with revised pages of the same number. A copy of each revised page accompanies this addendum.

   B. Revised Tables: Table 7-1 is deleted and replaced with the revised table of the same number. A copy of this revised table accompanies this addendum.

5. Air Monitoring Plan*:

   A. Revised Pages: Pages 1-2, 4-3, 4-4, and 4-5 are deleted and replaced with revised pages of the same number. A copy of each revised page accompanies this addendum.

6. Site Management Plan*:

   A. Revised Pages: Pages 4-4, 4-5, 4-6, and 4-7 are deleted and replaced with revised pages of the same number. A copy of each revised page accompanies this addendum.

7. Environmental Control and Maintenance Plan*:

   A. Revised Pages: Pages 4-9 and 4-10 are deleted and replaced with revised pages of the same number. A copy of each revised page accompanies this addendum.

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* For convenience deletions have been stricken with a line, and additions have been shaded. However, all portions of the pages shall apply whether or not changes have been indicated.

~~Deleted Text~~

Additional Text

ADDENDUM-001

TECHNICAL SPECIFICATIONS

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

Prepared For:
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INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

MAY 1993

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall provide the submittals required by these Specifications for the Engineer's review.

~~B. The Engineer will provide copies of all submittals to the U.S. EPA and IDEM for review. The Engineer's approval of any submittal will be contingent upon U.S. EPA and IDEM review.~~

B. The Engineer will provide copies of the following submittals to the U.S. EPA and IDEM for formal review:

1. Section 01390 a. - Contractor Health and Safety Plan
2. Section 01390 b. - Contingency and Emergency Response Plan
3. Section 01392 b. - Laboratory(ies) Quality Assurance Plan(s)
4. Section 01397 a. - Contractor Site Management Plan
5. Section 01400 a. - Contractor Quality Control Plan

The Engineer's approval of these submittals will be contingent upon U.S. EPA and IDEM review.

C. The Engineer will provide copies of all remaining submittals to the U.S. EPA Onsite Contractor.

1.02 SUMMARY OF SUBMITTALS

A. The submittals which the Contractor is required to provide include, but are not limited to, those specified by the following sections:

1. - Section 01050 - FIELD ENGINEERING AND SURVEYING:

a. Name, address, Indiana registration number, and telephone number of Surveyor.

b. Conformance certificates signed by Surveyor.

c. On request, documentation verifying accuracy of survey work.

d. Copies of Surveyor's field notes, calculations, and graphical layout.

e. Certificates signed by surveyor stating the accuracy of quantities submitted for payment purposes.

2. Section 01310 - PROGRESS SCHEDULES AND REPORTS:

a. Initial Progress Schedule.

b. Final Progress Schedule.

c. Revised Progress Schedules.

d. Monthly Progress Reports.

(1) Invoices

(2) Photographs

(3) Contract Documents

3. Section 01380 - CONSTRUCTION PHOTOGRAPHS:

a. Photographs (quantities as per Specification).

b. Negatives (quantities as per Specification).

4. Section 01385 - APPROVALS AND PERMITS:

a. Letters of Commitment.

b. Waste hauler information.

c. Disposal facility information.

d. Approvals and permits.

e. Special Waste Certification Application.

5. Section 01390 - HEALTH AND SAFETY:

   a. Contractor Health and Safety Plan.

   b. Contingency and Emergency Response Plan.

   c. Employee Training Records.

   d. Equipment Lists.

   e. Daily Safety Logs.

   f. Training Logs.

   g. Air Monitoring Results Reports.

   h. Weekly Safety Reports.

   i. Close-Out Safety Report.

   j. Examining Physician Qualifications.

   k. HSO and SSO Qualifications.

   l. Employee Medical Approval (Physician Statements).

   m. Accident Reports.

   n. Calibration Records.

6. Section 01392 - ENVIRONMENTAL QUALITY ASSURANCE:

   a. Laboratory Data.

   b. Validated Data.

   c. Field Measurements Logbook.

   d. Sample Collection Data Logbook.

   e. Chain-of-Custodies.

f. QA Non-Conformances - Field.

g. QA Non-Conformances - Laboratory.

h. Laboratory(ies) Quality Assurance Plan(s).

7. Section 01395 - ENVIRONMENTAL CONTROL AND MAINTENANCE:

a. Environmental Conditions Survey Report.

8. Section 01396 - AIR MONITORING:

a. Air Monitoring Report.

b. Sample Information Sheets.

c. Calibration Records.

d. Field Logs.

9. Section 01397 - SITE MANAGEMENT:

a. Contractor Site Management Plan.

10. Section 01400 - CONTRACTOR QUALITY CONTROL:

a. Contractor Quality Control Plan.

b. Resident Superintendent's Reports:

(1) Daily Report.

(2) Submittal Register.

(3) Daily QC Report.

(4) Report of Field Changes.

(5) Progress Report.

(6) Photographic Reporting Data Sheet.

(7) Corrective Actions Report.

c. Contractor Quality Control Manager's Reports:

(1) Non-Compliance Notification.

(2) Material Certifications with CQC Transmittal Form.

(3) Final Certification of Completion.

11. Section 01410 - TESTING LABORATORY SERVICES:

a. Name, address, and telephone numbers of laboratory(ies), and name(s) of full-time Responsible Officer for laboratory(ies).

b. Laboratory inspection reports.

c. Laboratory certifications.

d. Statement designating test to be performed, schedule, and frequency.

12. Section 01510 - UTILITIES:

a. Certificates for potable water.

13. Section 01525 - PROJECT IDENTIFICATION AND SIGNS:

a. Drawings showing sign content, layout, lettering, and colors.

14. Section 01700 - PROJECT RECORD DOCUMENTS/CONTRACT CLOSEOUT:

a. Project record documents and transmittal letter.

15. Section 02091 - WASTEWATER STORAGE PAD:

    a. Geomembrane product samples.

    b. Geomembrane manufacturer's product data.

    c. Geomembrane certificates of conformance.

16. Section 02175 - CULVERTS:

    a. Manufacturer's product data.

    b. Certificates of conformance.

17. Section 02180 - MANHOLES:

    a. Manufacturer's product data.

    b. Certificates of conformance.

18. Section 02280 - GEOTEXTILES:

    a. Product samples.

    b. Manufacturer's product data.

    c. Certificates of conformance.

19. Section 02700 - EROSION CONTROL:

    a. Silt fence fabric product sample.

    b. Silt fence fabric manufacturer's product data.

    c. Silt fence fabric certificates of conformance.

20. - Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL:

    a. Copies of certificates of required insurance.

    b. Copies of government permits and licenses.

c. Way-bills, weigh-in/weigh-out tickets, manifests.

d. Weigh scale certification.

21. Section 03200 - CONCRETE REINFORCEMENT:

a. Manufacturer's certification of product.

22. Section 03250 - CONCRETE JOINT ACCESSORIES:

a. Catalog cuts.

b. Product samples.

B. Submission Requirements:

1. Coordination of Submittal Items:

Prepare and transmit each submittal 5 working days in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections of the Specifications, so that the installation will not be delayed by processing times including revision and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the work.

2. Number of Submittals Required:

a. Submit four copies unless stated elsewhere in the Contract Documents or as directed by the Engineer.

3. All submittals, regardless of origin, shall have the following identification data, as applicable, contained thereon or permanently adhered thereto:

a. Date of submission and dates of any previous submissions.

b. Project name and contract number.

c. Contractor's name and address.

d. Supplier's name and address.

e. Manufacturer's name and address.

f. Submittal or resubmittal number.

g. Title or identification of submittal.

h. References to applicable Specification paragraphs and Drawings.

i. Contractor's Certification Statement.

j. Deviations from Contract Documents.

C. Resubmission Requirements:

1. Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.

2. Indicate any changes that have been made in addition to those requested by the Engineer.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01392 - ENVIRONMENTAL QUALITY ASSURANCE

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall be responsible for adhering to and implementing all requirements of the Quality Assurance Project Plan attached to these Specifications.

B. The Quality Assurance Project Plan ensures the quality of the site preparation and material removal sampling and analytical activities by employing quality assurance procedures in accordance with U.S. EPA protocols.

C. The objectives of the Quality Assurance Project Plan are as follows:

1. To assure sampling is carried out in accordance with established quality control procedures.

2. To assure that appropriate sampling and analytical procedures are followed as outlined in the Field Sampling Plan. The Field Sampling Plan is Appendix A to the Quality Assurance Project Plan.

1.02 SUBMITTALS

A. Laboratory Data.

B. Validated Data.

C. Field Measurement Logbook.

D. Sample Collection Data Logbook.

E. Chain-of-Custodies.

F. Quality Assurance Non-Conformances - Field.

G. Quality Assurance Non-Conformances - Laboratory.

H. Laboratory(ies) Quality Assurance Plan(s).

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes requirements for the Contractor provided geotechnical, concrete, and chemical testing laboratory services.

1.02 QUALITY ASSURANCE

A. Laboratories shall be selected on the basis of criteria for responsible and dependable sampling, testing, detecting, and identifying hazardous pollutants in air, water, soil, and other materials.

B. Chemical analyses shall be performed at Data Quality Objective (DQO) Level III. ~~Laboratories selected for chemical analysis shall be chosen from those on the U.S. EPA's list of approved and audited laboratories.~~ Selected laboratories may be Contract Laboratory Program (CLP) or non-CLP laboratories, as DQO Level III do not require exclusively the utilization of CLP methods.

C. The selected chemical laboratories shall perform in-house review of the generated analytical data under the direction of the respective laboratory's Quality Assurance Officer (QAO). The laboratory review shall include checks for the attainment of QC criteria as outlined in U.S. EPA procedures and the SOPs, as appropriate. In addition, the laboratories shall critique their own analytical programs by using spiked addition recoveries, established detection limits, by precision and accuracy control charts, and by keeping records of calibration data.

D. The Contractor Quality Control (CQC) Manager shall conduct independent review of chemical laboratory performance and data and has the right to require the laboratory to correct any laboratory quality assurance deficiencies at no additional cost to the ECC Trust. The CQC Manager shall retain documentation of remedies implemented to correct deficiencies and submit such documentation to the ECC Trust, the Remedial Contractor's Project Manager, and IDEM or the U.S. EPA, if requested.

1.03 SUBMITTALS

A. Submit under provisions of Section 01300 - SUBMITTALS.

B. For each laboratory selected, and prior to beginning work on the project, the Contractor shall submit to the Engineer:

1. Name, address, and telephone number of laboratory(ies), and name(s) of full-time Responsible Officer for laboratory(ies).

2. Copy of most recent report of laboratory facilities inspection, together with memorandum of remedies of deficiencies reported by the inspection, if any.

3. Laboratory certification(s).

4. Statement designing which tests are to be performed, a schedule of approximate times and frequencies for each type of sampling/testing.

C. Laboratory Reports

1. After each test, the laboratory shall submit reports within 1 week. Four copies shall be provided to the Engineer, and as many copies to the Contractor as he requires.

2. Geotechnical and Concrete Laboratory Reports shall include: date, project title and number, date and time of sampling, identification of product and section of Specifications, location in the project, type of test, and results of test.

3. Chemical Laboratory Reports shall include: a hard copy containing project title and number, type of analysis performed, a summary of tabulated analytical results with detection limits, a case narrative describing analytical problems, if any, sample data, including raw data and chromatograms, calibration data including chromatograms, surrogate spike reports, laboratory blanks, and external QA, i.e., trip blanks, replicate samples, and/or blind spikes. The report shall be in a format which facilitates data validation, if required.

4. Within 30 days of the completion of the project, each laboratory shall submit a Final Summary Report. Four copies shall be provided to the Engineer, and as many copies to the Contractor as he requires.

5. Final Summary Report shall include all of the reports which were submitted during the project.

1.04 CONTRACTOR RESPONSIBILITIES

A. Screen, select, and engage testing laboratories in accordance with Paragraph 1.2 - Quality Assurance, in this section.

B. Notify the Engineer 24 hours prior to expected time for operations requiring inspection services.

C. Provide access to work to be inspected/tested, and furnish equipment and incidental labor to assist in obtaining, and in handling, transporting, and storing samples.

D. Coordinate sampling and testing with progress of the project, and insure compliance with the approved CQC Plan and Contract Documents.

E. Deliver to laboratory adequate quantities of samples of materials proposed to be used, which require testing.

F. Contractor-selected testing laboratories and facilities must be acceptable to the Engineer. That acceptance will be conditional upon satisfactory performance. The Engineer reserves the right to require changes when deemed necessary to obtain the quality of testing and reporting that have been selected in the QAPP, and to satisfy these Specifications. **The Engineer will oversee the CQC Manager who will assure that the Laboratory(ies) Quality Assurance Plan(s) is/are followed.**

G. Employment of independent testing laboratories will in no way relieve the Contractor of any responsibilities with regard to Testing Laboratory Services.

H. The Contractor shall comply with testing and sampling requirements of all other Contract Documents.

1.05 TESTING LABORATORY LIMITATIONS

A. Laboratories may not alter, revoke, or enlarge the requirements of Contract Documents.

B. Laboratories may not assume any duties of the Engineer or Contractor, such as:

1. Accept or reject any portion of the work.

2. Issue Stop Work orders.

3. Issue Resume Work authorization.

4. Authorize or require changes in work procedures.

1.06 LABORATORY RESPONSIBILITIES

A. Attend Pre-Construction Conference, and progress meetings when appropriate or required by the Engineer or the Contractor.

B. Test samples submitted by the Contractor and prepare required reports.

C. Perform testing and reports in accordance with these Specifications, and standards of the industry.

D. Perform any additional testing or reports as may be required by the Engineer.

1.07 SCHEDULE OF TESTS AND INSPECTIONS

A. Approved CQC Plan and individual sections of these Specifications and the attached CQAP shall determine types and frequencies of tests and inspections.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02083 - STRUCTURES

PART 1 - GENERAL

1.01 CONDITIONS

A. There are two structures on the Site which shall be demolished. These include the A-frame house and the process building. A structure inventory has been performed and Appendix A of these Specifications includes Table 3, titled "Structure Inventory Summary Table".

B. The inventory of structure contents is not an all-inclusive list of removal items, and the Contractor is responsible for determining actual required removal items during the pre-bid site walk.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 A-FRAME HOUSE

A. Prior to site preparation work in the support zone, the A-frame house shall be demolished, including debris around the A-frame house. Debris around the structure shall be removed and placed in the onsite nonhazardous rolloff container.

B. Demolition of the structure shall be done so as to minimize disturbance to the ground within the remedial boundary.

C. All building materials and contents shall be cut into manageable pieces as needed and transported to the onsite nonhazardous rolloff container. As the onsite nonhazardous rolloff container nears capacity, it shall be transported to an approved offsite solid nonhazardous waste disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL. Some exceptions are listed below:

1. The small cans of paint, herbicides, and pesticides in the A-frame house shall be placed in laboratory packs and placed on the southern concrete pad pending laboratory analysis for disposal. Pesticides and herbicides shall be disposed of in accordance with the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

2. Any 55-gallon drums shall be staged on the southern concrete pad as per Section 02082 - DRUMS.

3.02 PROCESS BUILDING

A. Standing Water Removal:

1. During the structure inventory, there was 2 to 6 inches of standing water present on the floor of Room 1 of the process building. The amount of water present on the floor will fluctuate based on weather conditions.

2. In the event that water is present during this Contract, the Contractor shall pump the standing water into a mobile storage tank. The mobile storage tank shall be transported to the onsite hazardous wastewater storage tanker truck located on the wastewater storage pad. The hazardous wastewater storage tanker truck shall be transported to an offsite hazardous liquids disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

B. Sampling and Analyses:

1. As per the Field Sampling Plan, any porous structural materials from the process building shall be sampled and analyzed to determine if contaminated. In the event that any porous materials are determined to be contaminated, then the following shall apply:

a. The Contractor shall exercise care that significant VOC and contaminated particulate emissions do not occur during demolition activities. If, during demolition, excessive VOC concentrations are measured in the vicinity of the demolition area, efforts shall be taken as directed by the Engineer to minimize this occurrence.

b. The Contractor shall remove all non-contaminated material from within the process building prior to handling contaminated material and place it in the onsite solid nonhazardous rolloff container. As the onsite solid nonhazardous rolloff container nears capacity, it

shall be transported to an approved offsite solid nonhazardous waste disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

c. The Contractor shall segregate contaminated porous material and place it in the onsite solid hazardous rolloff container. As the onsite solid hazardous rolloff container nears capacity, it shall be transported to an approved offsite solid hazardous waste disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

d. The boiler shall be handled in accordance with Section 02089 - BOILER.

C. Demolition:

1. Prior to demolition of the process building, debris around the structure shall be removed and placed in the onsite nonhazardous rolloff container. Also, any 55-gallon drums shall be staged on the southern concrete pad as per Section 02082 - DRUMS.

2. After the debris is removed, a layer of aggregate (of adequate size) of sufficient thickness and areal extent shall be spread around the structure on the ground prior to the start of demolition. This aggregate layer is to prevent the contact of building debris with the ground surface and eliminate the removal of any existing potentially contaminated soil during demolition activities.

3. Demolition of the structure shall be done so as to minimize disturbance to the ground within the remedial boundary.

4. All non-metallic building materials and contents shall be cut into manageable pieces as needed and transported to the onsite nonhazardous rolloff container. As the onsite nonhazardous rolloff container nears capacity, it shall be transported to an approved offsite solid nonhazardous waste disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL. Some exceptions are listed below:

   a. If the cinder block from the process building is determined to be contaminated, then it shall be placed in the onsite solid hazardous rolloff container. As the onsite solid hazardous rolloff container

nears capacity, it shall be transported to an approved offsite solid hazardous waste disposal facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

b. Non-leaking fluorescent light ballasts shall be disposed of as general solid waste in groups of 25 or less at a time. Multiple shipments of 25 or fewer ballasts is acceptable to meet this requirement. If more than 25 ballasts are disposed of in one shipment, special waste approval must be obtained from IDEM.

c. Any leaking PCB containing ballasts must be disposed of in accordance with Toxic Substances Control Act (TSCA) regulations or 329 IAC 4.

d. Fluorescent tubes must be handled as Resource Conservation and Recovery Act (RCRA) hazardous waste and disposed of accordingly.

5. All metallic building materials such as steel beams and aluminum siding shall be handled in the following manner:

a. Cleaning:

(1) Building material shall be placed on the decontamination pad for cleaning.

(2) Disconnect miscellaneous attachments such as insulation and place it in the onsite solid nonhazardous rolloff container for subsequent disposal as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

(3) The building material shall be cleaned with a steam pressure washer capable of supplying 3,000 psi pressure.

(4) The building material shall be tested for organic vapor concentrations.

(a) Organic vapor concentrations are to be tested with a photoionization detector (PID). The PID reading must not be above background concentration in order to begin cutting operations.

(b) Should building materials fail this test, they shall be recleaned as required to pass the test.

(c) A final PID survey shall be performed on the building material to verify that it is clean (no readings above background).

b. Removal:

(1) The clean building material sections shall be removed from the decontamination pad and transported to the scrap staging area.

(2) Additional cutting of the building material shall be performed at the scrap staging area as required by the offsite disposal facility.

(3) The building material shall then be staged and loaded out for transportation to the offsite disposal facility.

(4) The building material shall be transported to an offsite scrap/salvage facility as per Section 02900 - OFFSITE TRANSPORTATION AND DISPOSAL.

(5) The disposal facility shall supply weight slips to the Contractor for each load disposed of.

(6) The Contractor shall submit all weigh slips daily to the Engineer. These weigh slips will be used for measurement and payment purposes.

6. All concrete floors and foundations below grade shall be left in place.

7. The boiler in Room 1 of the process building shall be handled as per Section 02089 - BOILER.

3.03 POWER POLE (WITH TWO TRANSFORMERS)

A. Conditions:

1. There are two transformers located on the power pole located to the northwest of Room 1 of the process building.

B. Transformers:

1. The two transformers shall be removed by others as directed by the Engineer and are not a part of this Contract.

2. The transformers shall be checked to ensure they are dead (deenergized) and properly grounded prior to dismantling and removal.

C. Power Pole and Powerlines:

1. The power pole and powerlines shall be removed by the Contractor, cut into manageable pieces, and transferred to the onsite nonhazardous rolloff container.

2. The power pole shall be cut off flush with the ground surface.

3. Any powerlines which run underground shall also be cut off flush with the ground surface.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02150 - MONITORING WELL PROTECTIVE BARRIERS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall be responsible for providing protective barriers around existing monitoring wells within the support zone as shown on the Contract Drawings in order to eliminate potential damage during construction operations.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Protective Casing: 4-inch (nominal) diameter Schedule 40 low carbon steel.

B. Concrete: Concrete shall have a 28-day compressive strength of 3,000 psi.

PART 3 - EXECUTION

3.01 MONITORING WELL PROTECTIVE BARRIER INSTALLATION

A. The Contractor shall auger four minimum 8-inch (nominal) diameter holes around existing monitoring wells at the locations and depths shown on Contract Drawing Number C-6.

B. The Contractor shall set the 4-inch (nominal) diameter protective casing plumb and in the center of the augered hole as shown on Contract Drawing Number C-6.

C. The Contractor shall then fill the annular space between the protective casing and the borehole wall with concrete from the bottom of the borehole to the ground surface as shown on Contract Drawing Number C-6.

D. The Contractor shall also fill the inside of the protective casing with concrete as shown on Contract Drawing Number C-6.

E. Concrete shall be thoroughly consolidated so as to be free of voids.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02800 - FENCES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes the furnishing and installation of the Site Security Fence, Exclusion Zone Fence, and Temporary Construction Fence.

1.02 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. American Society for Testing and Materials (ASTM) Publication:

a. A 120-84: Pipe, Steel, Block and Hot Dipped Zinc-Coated Galvanized, Welded, and Seamless, for Ordinary Uses.

b. A 153-82: Zinc Coating (Hot Dip) on Iron and Steel Hardware.

c. C 94-86b: Ready-Mixed Concrete.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Site Security Fence (Chain Link):

1. Fabric shall be 9-gage galvanized wire woven in 2-inch mesh. Fabric height shall be 8 feet.

2. Gates shall be of the type and size shown. Gate frames shall be constructed of 2-inch, Schedule 40 zinc coated steel pipe with welded joints. Gate fabric shall be as specified above. Vertical members of gate leaves shall be spaced so that no members are more than 8 feet apart. Gates over 10 feet wide shall be additionally braced with a 5/16-inch, minimum thickness, diagonal truss rod. Gate fabric shall be attached to

the gate frame by method standard with the manufacturer except that welding will not be permitted. Latches, hinges, stops, keepers, rollers, and other hardware items shall be furnished as required for the operation of the gate. Latches shall be arranged for padlocking so that padlock will be accessible from both sides of the gate regardless of the latching arrangement.

3. Posts (ASTM 120-79): Posts shall be zinc-coated Schedule 40 steel pipe. Sizes shall be as shown on the Drawings. Line posts shall be of the same class throughout the fence. Terminal (corner, gate, and pull) posts selected shall be of the same class throughout the fence.

4. Braces shall be zinc-coated steel pipe.

5. Accessories: Ferrous accessories shall be zinc-coated as per ASTM A-153.

   a. Truss rods shall be furnished for each terminal post. Truss rods shall be provided with turnbuckles or other equivalent provisions for adjustment.

B. Exclusion Zone Fence (Chain Link):

1. Fabric shall be 9-gage galvanized wire woven in 2-inch mesh. Fabric height shall be 6 feet.

2. Frame sections to be 10 feet long constructed of 1 5/8-inch O.D. tubing galvanized inside and outside.

3. Fence sections to be attached using at least one 1 5/8 inch x 1 5/8 inch saddle clamp with bolt between each section maintaining a 1 inch space.

4. Fence section supports to be placed in a pre-case concrete block 23 inches x 9 inches x 5 inches with two holes able to receive the fence posts and keep the fence in an upright and stable manner.

C. Temporary Construction Fence (High Visibility):

1. Fabric shall be Tenax ALPI™ construction fencing or its performance equivalent.

2. Fabric shall be 4 feet in height.

3. Fabric color shall be high visibility orange.

4. Fabric shall be hung on steel piping or its performance equivalent, of appropriate size in order to maintain the fence in an upright and secure manner.

5. The Contractor shall utilize aluminum wire ties of sufficient gauge, or its performance equivalent, and quantity in order to maintain the fence in an upright and secure manner while affixed to the fence posts.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Site Security Fence:

1. Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared as needed to install the fence. Posts shall be spaced equidistant at intervals not exceeding 10 feet. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet.

2. Posts shall be set plumb and in alignment. Posts shall be set in concrete to the depth of 36 inches. Concrete shall have a 28-day compressive strength of ~~4,000 psi~~ 3,000 psi. Concrete shall be thoroughly consolidated around each post so as to be free of voids and finished to form a dome. Concrete shall be allowed to cure for 72 hours prior to attachment of any item to the posts.

3. Top rail shall be supported at each post in a manner that a continuous brace between terminal posts is formed. Where required, sections of top rail shall be joined using sleeves or couplings that will allow expansion or contraction of the rail.

4. Braces and truss rods shall be installed as required and in conformance with the standard practice for the fence furnished. Braces and truss rods shall extend from terminal posts to line posts. Diagonal braces shall form an angle of approximately 40 to 50 degrees with the horizontal.

5. Chain link fabric shall be installed on the side of the post facing away from the Site. Fabric shall be attached to terminal posts with stretcher bars and tension bands. Bands shall be spaced at approximately 15-inch intervals. Fabric shall be pulled taut to provide a smooth uniform appearance free from sag. Fabric shall be fastened to line posts at approximately 18-inch intervals and fastened to top rails and tension wires at approximately 18-inch intervals. Fabric shall be cut by untwisting and removing pickets. Splicing shall be accomplished by weaving a single picket into the ends of the rolls to be joined. The bottom of the installed fabric shall be 2 inches (plus or minus 1/2 inch) aboveground.

6. Gates shall be installed at the locations shown. Hinged gates shall be mounted to swing as indicated. Latches, stops, and keepers shall be installed as required. Padlocks shall be attached to gates or gate posts with chains to prevent padlock removal.

B. Exclusion Zone Fence:

1. Fence shall be installed as per manufacturer's recommendation under direction of the Engineer, and at the location indicated on the Drawings. The area on either side of the fence line shall be cleared as needed to install the fence.

2. The fence shall be maintained in an acceptable manner to the Engineer.

C. Temporary Construction Fence:

1. The fence location shall be placed as per Drawing Number C-2 along the west edge of the diversion ditch under direction of the Engineer.

2. The fence posts shall not stand higher than the fence when in place.

3. Fence posts shall be placed between 5 and 7 feet apart.

4. The fence shall be installed as per manufacturers specifications, or by direction of the Engineer.

5. The Contractor shall maintain the fence in an acceptable manner to the Engineer.

END OF SECTION

ADDENDUM-001

HEALTH AND SAFETY PLAN

SITE PREPARATION AND MATERIAL REMOVAL

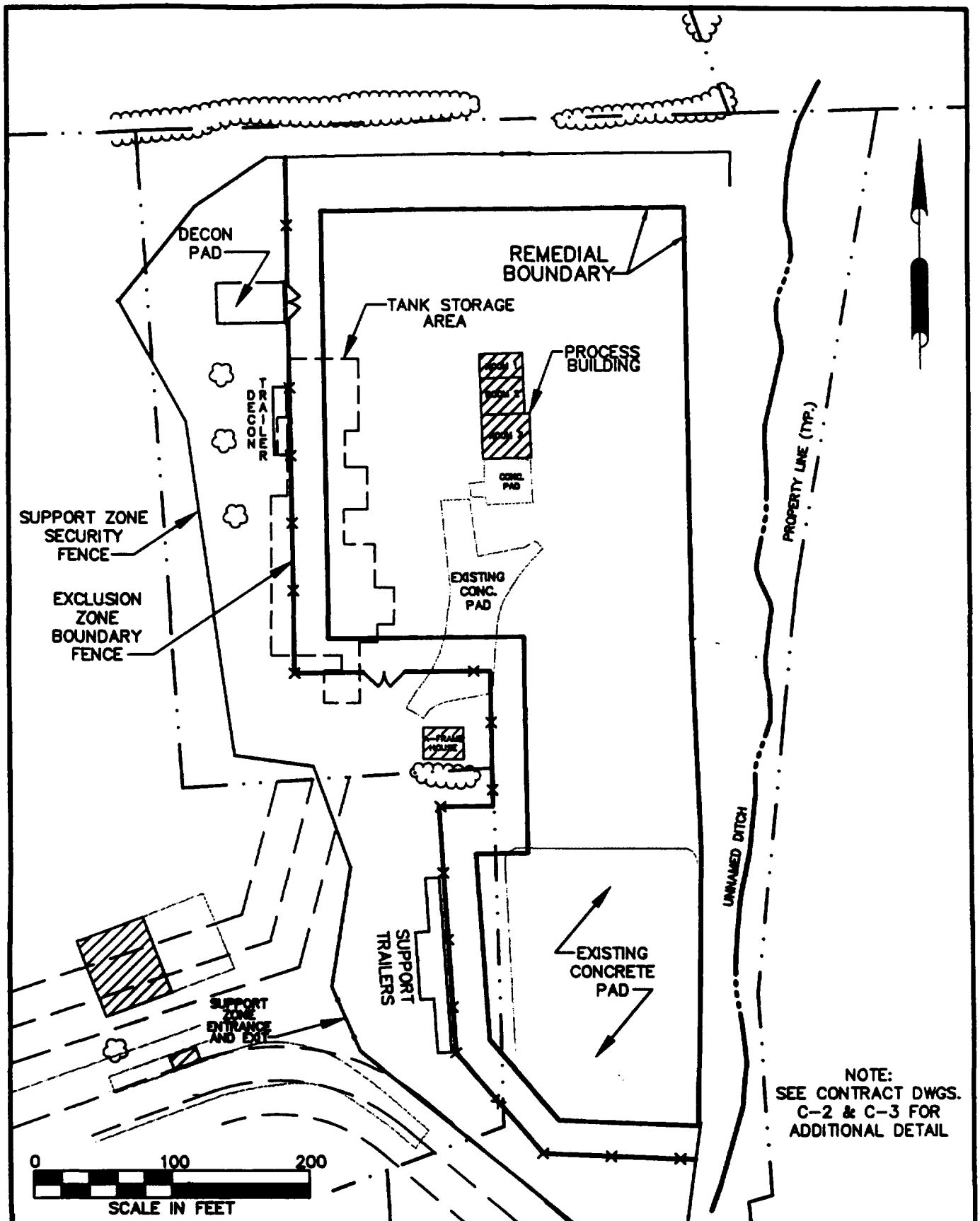
FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

Prepared For:
ENVIRONMENTAL CONSERVATION AND
CHEMICAL CORPORATION TRUST

Prepared By:
AWD TECHNOLOGIES, INC.
INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

MAY 1993



AWD TECHNOLOGIES, INC

PROPOSED BOUNDARIES OF SUPPORT ZONE AND EXCLUSION ZONE

ENVIRO-CHEM SUPERFUND SITE — ZIONSVILLE, IN

CLIENT: ENVIRONMENTAL CONSERVATION & CHEMICAL CORP. TRUST — JOB NO. 2259-554

SCALE: AS SHOWN — FIGURE NUMBER 6-1 — REV 1

FILE: \ECC\6-1_554.DWG

ADDENDUM-001

QUALITY ASSURANCE PROJECT PLAN

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

Prepared For:
ENVIRONMENTAL CONSERVATION AND CHEMICAL CORPORATION TRUST

Prepared By:
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INDIANAPOLIS, INDIANA

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MAY 1993

The CQC Manager will also be responsible for validation of data reports on all sampling conducted under this phase. A letter validation report will be developed which contains a discussion on the results of the QA samples collected in the field and the laboratories internal QA analyses. The report shall summarize the findings of the review and give an indication of the general quality of the data.

2.10 U.S. EPA Region V Quality Assurance Officer (QAO)

The U.S. EPA Region V QAO will have the responsibility of reviewing and approving the QAPP.

2.11 Subcontract Laboratories' Project Managers

The analyses to be performed by laboratory subcontractors are listed in Table 7-1. The laboratories will be selected by the Remedial Contractor ~~from the U.S. EPA's pre-approved list~~ and will be approved by the ECC Trust and U.S. EPA/IDEM. The laboratories' Project Managers will be responsible for coordinating and scheduling the laboratory analyses; supervising the in-house chain of custody; accepting requirements outlined within this QAPP; and overseeing the data review and preparation of the analytical reports.

2.12 Subcontract Laboratories' Quality Assurance Officers (QAOs)

The laboratories' QAOs will be responsible for overseeing the laboratory QA and the analytical results QA/QC documentation, conducting the data review, selecting any necessary laboratory corrective actions, adherence to applicable in-house Standard Operating Procedures (SOPs), adherence to the QAPP, and approving the final analytical reports. Each laboratory may have more than one QAO if, for example, any of these various activities take place in different departments within the laboratory.

5.2 Final Evidence Files Custody Procedures

The Remedial Contractor will maintain the Site Preparation and Material Removal evidence files. The evidence files will include all relevant records, correspondence, reports, logs, field logbooks, laboratory sample preparation and analysis forms, data packages, pictures, subcontractor reports, chain-of-custody records, and data review reports. The evidence files will be under the custody of the Remedial Contractor Project Manager in a locked, secure area.

5.3 Laboratory Chain of Custody Procedures

The chain-of-custody procedures for the laboratories will be included in the laboratories' quality assurance plan to be submitted after selection ~~from the U.S. EPA's pre-approved list~~ and will be included as an appendix to the QAPP at that time.

TABLE 7-1

SUMMARY OF FIELD SAMPLING AND ANALYSIS

Waste Media	Phase	No. of Samples	Sampling Device	Sample Container	Sample Preservation	Holding Time	Analysis	Method Reference	Data Quality Obj.
Process Building Materials and Other Debris Intended for Special Waste Certification through IDEM	Solid	Unknown[2]	Hammer and Chisel/Masonry Saw (Process Building Masonry)	(2) 32 oz. wide mouth glass jars	None required	None required	RCRA TCLP (see Table 7-2)	Per 40 CFR 261	3
Fluorescent Light Ballasts	Liquid	1	Open End Sampler	1 liter amber glass jar	Ice to 4°C	7 days extract 40 days analyze	PCBs[3]	U.S. EPA Method 608	3
Bulked Liquid Waste/ Tanker	Liquid	1/Tanker	Stainless steel Bailer/ Open End Sampler	See Note [1]	See Note [1]	See Note [1]	TSD Profile	See Note [1]	2

Notes

[1] TSD profile analyses to be performed by waste receiver (treatment or disposal) as a confirmation of previous waste characterization. Sample containers and preservation requirements will be identified after TSD analyses requirements are determined.

[2] There will be a minimum of one composite sample from each masonry block wall from each of the separate rooms within the old process building.

[3] Detection limits for PCBs will be provided by laboratory selected ~~from the U.S. EPA's pre-approved list~~.

Addendum-001

ADDENDUM-001

AIR MONITORING PLAN

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

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As a result of postponing Activity MR-110 until the remedial action phase, there will not be any activities performed during site preparation and material removal that will disturb the existing surface conditions inside the remediation boundary. The only uncontrolled emissions expected will be fugitive dust. Appropriate measures will be taken during site preparation and material removal activities to mitigate fugitive dust emissions.

Although the boiler room is not expected to be contaminated, activity MR-120 may also result in VOC emissions. Recognizing this, the Field Sampling Plan (Section 4.2) requires that confirmation testing of boiler room blocks and the boiler be performed prior to disposal. If the blocks are found to be contaminated with VOCs, then occupational real-time VOC monitoring performed under the HASP will identify any significant emissions that may occur during demolition.

This AMP is organized as follows:

- Section 2.0 - Describes the regional setting of the Site including climate, topography, receptors, and existing emission sources.
- Section 3.0 - Presents the regulatory requirements under which this AMP will be performed.
- Section 4.0 - The Air Monitoring Program is presented. Topics covered include monitoring locations, monitoring duration and frequency, monitoring methods, and quality assurance/quality control.
- Section 5.0 - Presents the mitigating measures that will be implemented in the event that air monitoring levels exceed allowable limits.
- Section 6.0 - Describes data management and reporting requirements of the ECC-Trust's Engineer (Engineer).

4.2 Duration and Frequency of Monitoring

Downwind air monitoring will be performed twice daily when site preparation and material removal activities are underway at the site. Samples should be collected at mid-morning and mid-afternoon to ensure that sampling coincides with variations in daily wind regimes. In addition, downwind samples will be collected when visible particulate emissions are being released from the site, and each time a new site activity is begun. These samples will be of 10-minute duration for comparison to the AALs shown in Table 4-1. A single daily sample will be used to characterize daily upwind conditions. Sampling will not be performed during periods of precipitation unless visible fugitive dust emissions are observed.

4.3 Air Monitoring Methods

A miniature real-time aerosol monitor such as the M.I.E. MINIRAM (Model PDM-3) or its performance equivalent, will be used to measure real-time ambient concentrations of particulate. This instrument provides a measurement range of 0.01 to 100 mg/m^3.

Air monitoring will be performed in accordance with standard operating procedures provided by the instrument manufacturer. If the MIE Model PDM-3 is selected by the Contractor, the MIE operating procedures included in Appendix A will be followed. Adherence to these procedures will ensure the comparability and reliability of the results obtained from the instrument. The unit will be calibrated on a daily basis as specified by the manufacturer.

The recommended procedure for determining compliance with the AALs is as follows:

1. Identify active area of site preparation or material removal.

2. Identify predominant wind direction with wind socks or other visual indicators.

3. Move instrument to an upwind orientation and collect a 10-minute average samples (with instrument intake in the breathing zone). The instrument may be mounted on a tripod to facilitate sample collection.

4. Record "upwind" concentration.

5. Move to a downwind fenceline location and collect 10-minute average sample.

6. Subtract upwind concentration from downwind concentration.

7. Compare result to Table 4-1 AALs and implement responses as needed.

The AALs shown in Table 4-1 will be protective of the state and Federal ambient air quality standards. This is demonstrated by the following hypothetical scenario that assumes the AAL of ~~500 $\mu g/m^3$~~ 5,000 micrograms/cubic meter (10-minute average) above background is exceeded at the downwind station. This would correspond to average 1-minute concentrations exceeding background by 500 micrograms/cubic meter. After the 10-minute reading, the technician takes 10 minutes to notify the Engineer, Resident Superintendent, and Site Safety Officer. Finally, operations are halted and dust suppression is initiated after a total of 30 minutes have elapsed. As a result, the measured air concentrations assuming a background concentration of 100 $\mu g/m^3$, will be as follows:

HYPOTHETICAL MONITORING AND RESPONSE SCENARIO		
Time (Min)	Concentration ($\mu g/m^3$)	Action
1 to 10	600	Perimeter downwind monitoring
10 to 20	600	Technician notifies Engineer
20 to 30	600	Operations are halted and dust suppression initiated
31 to end of 24-hour period	Background (assume 100 $\mu g/m^3$)	Dust suppression maintained for duration of this activity or until wind conditions subside

A 24-hour (1,440-minute) average concentration (assuming background of 100 $\mu g/m^3$) would be calculated as follows:

$$\frac{(30\ \text{min} \times 600\ \mu g/m^3) + (1{,}410\ \text{min} \times 100\ \mu g/m^3)}{1{,}440\ \text{min/24-hours}} = 110.4\ \mu g/m^3\text{-day}$$

This calculation demonstrates that even if background concentrations are about 100 $\mu g/m^3$, a 30-minute event of 600 $\mu g/m^3$ (500 $\mu g/m^3$ above background) would cause only a small increase over the existing 24-hour ambient condition, and it would still be within the state and Federal standards. For the example provided, even if the time from the first detection of the AAL excess to control of emissions was 2 hours, the associated 24-hour average would not exceed the state or Federal standard.

4.4 Quality Assurance/Quality Control

The Air Monitoring Program will incorporate a two-component approach for routine QA/QC checks as follows:

- Use of collocated samples for precision checks
- Equipment calibrations

One set of real-time measurements will be simultaneously collocated at a downwind station for 10 percent of the sampling activities (e.g., collocated sampling performed every 10th sampling day). Comparison of the results for collocated samples will be used to evaluate the reliability of data obtained in the field.

Calibration of sampling instruments will be performed in accordance with the manufacturer's recommendation on a daily basis.

4.5 Organization and Responsibilities

This real-time air monitoring will be carried out as a component of the Health and Safety Plan. Therefore, the organization and responsibilities identified in the Health and Safety Plan will be adhered to for execution of this AMP.

ADDENDUM-001

SITE MANAGEMENT PLAN

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA

Prepared For:
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INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

MAY 1993

the ECC Site and the NSL Site will be worked out by representatives of both sites and BCRRS prior to implementation of this plan. The access road intersection with State Route 421 is near the existing office facility operated by BCRRS.

A portion of the access road outside of the support zone will be upgraded by the Remedial Contractor as indicated on the Contract Drawings. This portion of the upgraded road will not extend to State Route 421.

All vehicles traveling on the access roads between the support zone and State Route 421 shall coordinate their movement with traffic and other activities involving BCRRS and the NSL Landfill remediation. Any accidents or access road interferences or obstructions should be immediately reported to the Engineer.

4.5.2 Contractor Parking Area

A parking area outside of the support zone shall be established by the Remedial Contractor for personal vehicles. The parking area is indicated on the Contract Drawings.

4.5.3 Support Zone Entrance and Exit

The support zone shall be within a continuously fenced area that will have two operating gates. These gates are as follows:

- Main Gate, located at the southwest perimeter of the Site. This gate shall be used as the only vehicle entrance to the support zone. Vehicles ~~may~~ shall also exit the main gate only if they are decontaminted or have not been within the exclusion zone.

- ~~West~~ Northwest Gate, located at the northwest perimeter of the Site. This gate shall ~~be~~ used as the ~~primary~~ vehicle exit from the support zone for access to the NSL borrow area. ~~All~~ Only vehicles that have been decontaminated shall exit from the west gate.

All personnel and vehicle ingress and egress for the support zone will be by the operating gates only. The equipment laydown area will be accessed by its own gate. The north gate shall be installed during fence installation, however, this gate shall be locked and shall not be used during the site preparation and materials removal activities. Site security requirements for vehicles entering the support zone are described in Section 5.0 of this plan.

4.5.4 Support Zone

The Remedial Contractor shall coordinate the flow of traffic within the support zone. All vehicles that enter the remedial boundary shall be decontaminated prior to re-entering the support zone.

4.5.5 NSL Borrow Area

A Borrow Area for suitable fill shall be chosen by the Remedial Contractor, if necessary, to provide fill material for preparation of the support zone. The NSL Borrow Area to the northeast of the site may be used if approved by the Engineer.

Access to the NSL Borrow Area, if used, will be via the northwest gate and the existing haul road north of the site. Access to the NSL Borrow Area and maintenance of the haul road will be coordinated between representatives of the ECC Site, NSL Landfill Trustees, and BCRRS, as necessary, prior to implementation of site preparation activities.

4.6 Decontamination Pad

The decontamination (decon) pad will serve several purposes in controlling the release of contaminants outside of the exclusion zone (EZ). The decon pad will be used by the Remedial Contractor for:

- The cleaning of materials intended to be removed during the SPMR phase (i.e., old process tanks, process building materials, and general debris).

- Decontamination of personnel and general equipment which will be used within the EZ.

- Decontamination of vehicles supporting operations within the EZ. Operations at the decon pad will be primarily the use of high pressure washes which will be collected by a grated drain and sump.

The decon pad has been designed to allow both materials and vehicles access to decontamination operations and to collect both decon waters and solids.

The decon pad was sized to accommodate both tank cutting and cleaning and also to provide an area for decon of heavy equipment. The tank decon bay is approximately 33 feet by 50 feet and the equipment decon drive-thru bay is approximately 17 feet by 50 feet. The pad is constructed of reinforced concrete, 8 inches thick, for durability and performance under dynamic loading conditions caused by heavy tanks and equipment. The decon pad is equipped with a curb and collection sump which has a liquid storage volume sufficient to handle precipitation from a 25-year 24-hour storm. Liquids collected in the sump will be transferred to storage tanker trucks located on the adjacent wastewater storage pad.

The Remedial Contractor will be responsible for the operation of the decon pad and will be required to transfer collected decon waters from the collection sump to the tanker trucks located on the wastewater storage pad periodically. Solids within the decon pad drain will be removed and placed into the bulk soils container by the Contractor.

Technical Specification Section 02090 describes the temporary closure of the decon pad. The purpose of this is to mitigate ponding of water on the pad between phases of the remediation.

4.7 Wastewater Storage Pad

The wastewater storage pad shall be used as a secondary containment area for wastewater storage tanker trucks which will be used for storage of collected decon waters and any other contaminated liquid generated or staged for disposal.

The wastewater storage pad has been designed to provide secondary containment of stored wastewater in the event of a release from a wastewater storage tanker truck.

The wastewater storage pad was sized to accommodate two storage tanker trucks for collection of liquids generated during SPMR activities. The pad is constructed with a HDPE membrane and aggregate cover to contain any tanker leaks or spills. The pad has a liquid storage volume of approximately 8,000 gallons, which is the maximum capacity allowed for the single largest storage tank on the pad. These materials are expected to provide suitable performance for storage of tankers and the static loading conditions they present. ~~The pad has a liquid storage volume of approximately 8,000 gallons, which is the maximum capacity allowed for the single largest storage tank on the pad.~~

Precautions shall be taken by the Contractor to prevent damage to the wastewater storage pad during hauling of full tanker loads from the pad. The Contractor shall observe removal of the tanker loads to ensure that physical damage to the pad is not occurring. If routine hauling operations are found by the Engineer to be potentially damaging to the pad, alternate operations shall (by way of example) be implemented as directed by the Engineer, to prevent damage to the pad. These operations may include limiting the tanker wastewater volume, or removing the tanker from the pad by electric winch or other heavy equipment until it is situated on a level surface from which it can be towed by routine methods.

Technical Specification Section 02091 describes the temporary closure of the wastewater storage pad. The purpose of this is to mitigate ponding of water on the pad between phases of the remediation.

ADDENDUM-001

ENVIRONMENTAL CONTROL AND MAINTENANCE PLAN

SITE PREPARATION AND MATERIAL REMOVAL

FINAL DESIGN
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Prepared For:
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INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

MAY 1993

4.9 Dust Control

Dust control measures will be implemented in response to the offsite air monitoring stations as outlined in the Air Monitoring Plan (AMP) or other reasons as identified by the Engineer. Acceptable levels of particulates are defined in the AMP and exceedances will be identified by the Resident Superintendent.

The following measures will be taken at all times to minimize the likelihood that fugitive dust will be emitted from the site:

- The Contractor shall take measures necessary to minimize tracking of mud and dirt onto adjacent public roadways. These measures shall include a gravel construction entrance **at the Support Zone main gate as indicated on the Contract Drawings. The section of the access road between the upgraded main gate area and State Route 421 will be maintained jointly by representatives of the ECC Site, NSL Site and BCRRS as worked out in the agreement being developed by these parties**. Adjacent public roadways shall be cleaned as often as necessary to maintain a dust and mud free surface.

- The Contractor shall take measures necessary to minimize unnecessary dust. Earth surfaces subject to dusting shall be kept moist with water. Dusty materials in piles or in transit shall be covered to prevent blowing.

If perimeter monitoring indicates that the 500 $\mu g/m^3$ above background AAL has been exceeded, then the following dust control measures will be considered:

- **Cease** activities until more favorable conditions exist
- **Apply** water over the area(s) of concern
- **Apply** calcium chloride over the area(s) of concern

The Remedial Contractor will proceed with implementation of dust control measures only after approval by the Engineer

Since SPMR activities will result in minimal disturbance of the ground, it is anticipated that unacceptable levels of dust will not be generated. If it is determined that unacceptable levels of dust are being generated by these activities, the Engineer will restrict some or all activities until dust control measures have been instituted to prevent contaminant migration.

4.9.1 Water Application

- Water application shall not be performed without written approval of the Engineer. Surface runoff shall not be allowed. Seepage into the subgrade shall not be allowed.

- Material - Provide clean water, free from salt, oil, and other deleterious materials.

- Equipment - Apply water with equipment consisting of a tank, spray bar, and pump with discharge pressure gage.

- Methodology - Arrange spray bar height above grade; arrange nozzle spacing and spray pattern to provide complete coverage of ground with water.

4.9.2 Calcium Chloride Application

- Material - The Remedial Contractor shall provide calcium chloride that conforms to ASTM D98, latest edition.

- Application - The Remedial Contractor shall apply by hand or variable-rate spreader.

- Environmental Protection - The Remedial Contractor shall prevent calcium chloride from entering and contaminating surface waters on or surrounding the project site.